



*WMO Information System  
(WIS)  
and the Next Generation of  
Worldwide Weather Data Exchange*  
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*(August 2013)*

# Entities/Objects to be introduced

- WIS – WMO Information System
- GISC - Global Information System Center
- DCPC – Data Collection/Production Center
- NC – National Center
- DAR Catalogue
- Metadata
- GISC-Washington DAR

# What is WIS

- Global Infrastructure for weather data management.
- Provides the standardized data collection/distribution approach.
- Provides GISC/DAR (Discovery, Access and Retrieval) service to assure users can find the data they need (via pull), and have data disseminated to them in a timely manner (via push).
- DCPCs and NCs, within the GISC regional area of responsibility, need to generate and provide metadata for their data products to the GISC.
- Close relationships between GISCs allow easier exchange of meteorological data, with a goal of enhancing National and Regional NWP programs.

WIS will reshape the look, feel and core of the WMO community over the next 10-15 years.

- By allowing non-traditional and emerging economy nations to become core players in the WMO community to obtain data for NWP purposes at a low cost
- By modernizing the technology WMO is using and reducing the use of Met-specific technology
- By increasing flexibility of data formats and the use of existing and future open standard formats
- BY laying the framework to have strict controls over the end use of meteorological data yet still provide for wide dissemination



# Type of WIS Center

- GISC – Global Information System Center
- DCPC – Data Collection or Production Center
- NC - National Center

# The GISC

- Collects/delivers observed data and products for global distribution
- Maintains 24 hours of core data
- *Maintains a DAR (Discovery, Access and Retrieval ) catalog*
- *Exchanges its DAR catalog with other GISCs*
- *Provides web interface tool (portal) to access data*

# GISC/DAR Catalog

- Provides locating/retrieving weather information capability.
- Contains categories of metadata.

## DAR Catalog

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Category Germany

Category France

Category USA

•  
•  
•  
•

Metadata set

← - - - - -

← - - - - -

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Germany GISC

France GISC

Washington GISC

•  
•  
•  
•

# What is Metadata?

- WIS metadata describes WMO data and products

For example: 70 % chance of rain, wind speed.

- Provides static information (Who, Where, When, What)
- Static Information = Metadata
- Metadata is maintained by DCPCs and NCs



# Metadata is?

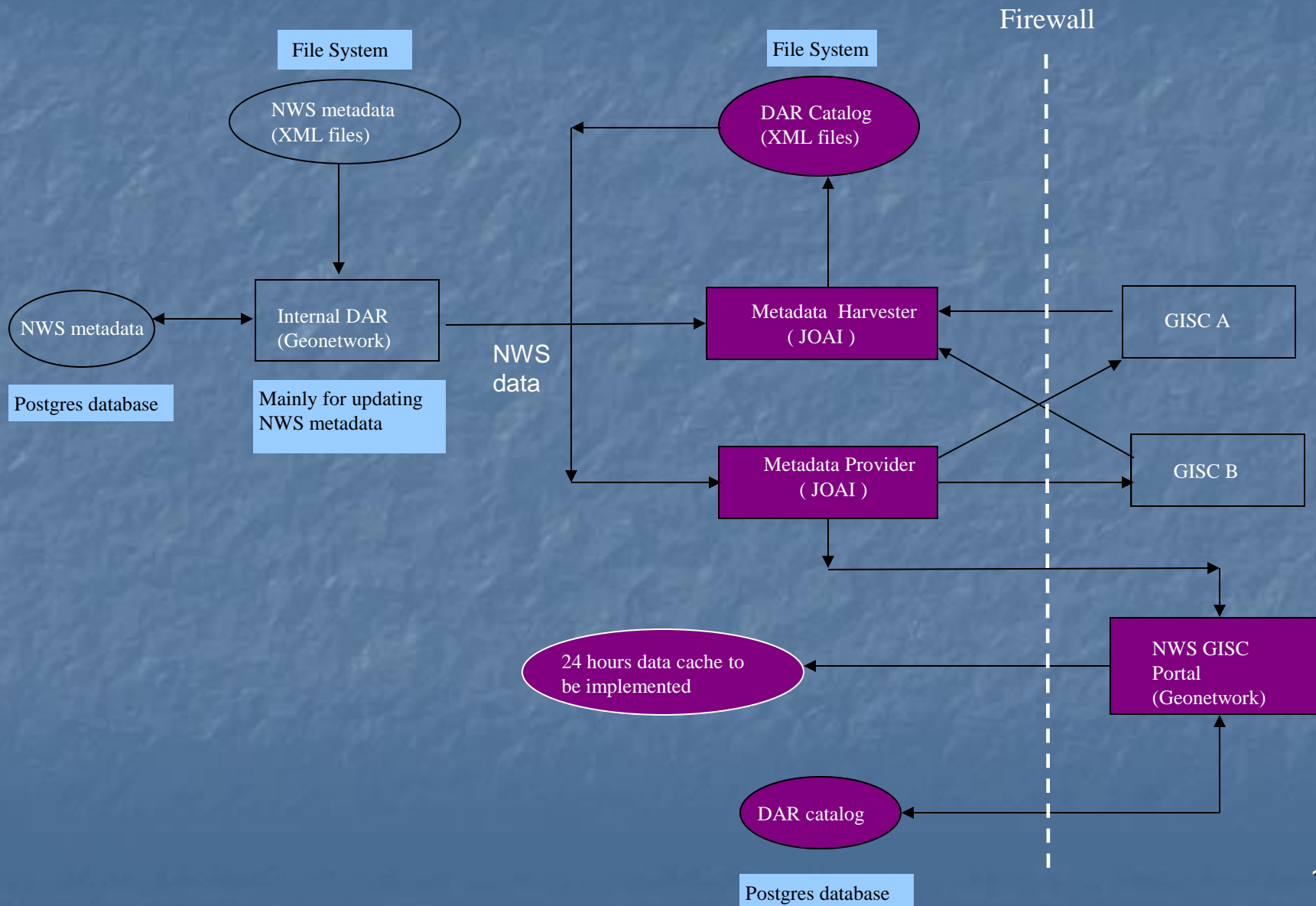
## (Static Info of Weather Data)

- The data about data.
- In Extensible Markup Language (XML) file format
- Uses ISO 19115 and ISO 19139 standards for the description of metadata.
- Some examples of metadata elements
  - Title, Content description, Geographic and temporal extents, Responsible party.
- Additional information on metadata can be found at:  
[http://www.wmo.int/pages/prog/www/OSY/Meetings/ET-AWS3/Doc3-2\(1\).pdf](http://www.wmo.int/pages/prog/www/OSY/Meetings/ET-AWS3/Doc3-2(1).pdf)

# What is GISC-Washington?

- GISC-Washington participates in the WMO Global Telecommunications System (GTS) on the Main Telecommunications Network (MTN).
  - As one of 3 World Meteorological Centers (WMC)
  - As one of 15 Regional Telecommunications Hubs (RTH)
  - As one of 189 National Meteorological Telecommunications Networks (NMTN) via its NWS Telecommunications Gateway (NWSTG).
  - Serves as the WMO designated GISC for WMO Region-IV.
  - Facilitates availability of Region-IV data to world community.

# GISC-Washington DAR





# GISC incorporation of DCPCs

- DCPC candidates must be associated with their Regional GISC as a condition for WMO certification (per WMO documents 1060 & 1061).
- DCPC candidates must implement an OAI/JOAI provider interface to accommodate access (via pull) to their metadata by the Regional GISC. This will be verified during the candidate's WMO DCPC certification audit.
- It is strongly recommended DCPC candidates consult with their Regional GISC for guidance, implementation assistance, and testing of their OAI/JOAI provider interface prior to submission to WMO for the DCPC certification audit.



# GISC incorporation of NCs

- GISC-Washington collects bulletins and other types of weather related data products from associated National Meteorological Centers (NMC) within WMO Region-IV, and transmits them in the appropriate form on the MTN directly through the NWSTG as the RTH.
- GISC-Washington will also collect and catalog the metadata associated with the bulletins and other types of weather related data products from NMCs within WMO Region-IV.



## NOAA's National Weather Service GISC Portal Region 4

wea

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Eng

User: admin admin

### WHAT?

### WHERE?

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- CMA
- DCPCNGO
- DWD
- INMET
- IRIMO
- JMA

### NWS DATA ACCESS AND RETRIEVAL SEARCH PORTAL - FIND WEATHER METADATA B FROM GLOBAL CATALOGUES OF WMO BULLETINS

Aggregate Results matching search criteria : 1-10/24 (page 1/3), 0 selected

Select : [all](#), [none](#) Sort by 

#### ☐ NUMBER OF DAYS WITHOUT RAIN / DRY SEASON MONITORING - MULTIMISSIION - SOUTH AMERICA

  
No preview available

##### Abstract

A DevCoCast product, Number of Days Without Rain (for dry season monitoring) indicates the number of days without convective rainfall, making use of GOES images and an hydro-estimator.

##### Keywords

Agriculture, Climate, Disaster, Ecosystems, Energy, Health, Water, Weather, Land, GOES, Atmosphere, Precipitation, Land, Observation, EUMETCast, EUMETCast-Europe, EUMETCast-Africa, EUMETCast-Americas, GEONETCast Americas

#### ☐ MODEL MBAR - PRECIPITATIONS

  
No preview available

##### Abstract

Model MBAR from INMET, Brazil, Precipitations



## NOAA's National Weather Service Internal DAR

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### WHAT?

### WHERE?



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► [GUST01 collection of CLIMATE TEMP](#)

☐ Show map

### FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

Aggregate Results matching search criteria : 1-4/4 (page 1/1), 0 selected

Select : [all](#), [none](#) [actions on selection](#)

Sort by [Relevance](#)

Logo

#### ☐ WTXS36 BULLETIN AVAILABLE FROM PGTW (GUAM (JOINT TYPHOON WARNING CENTER))

Abstract

---- The bulletin collects TEXT reports. ----  
The WTXS36 TTAAii Data Designators decode (2) as: T1 (W): Warnings.  
(T): Tropical cyclone (Typhoon/Hurricane). A1A2 (XS): Southern hemisphere  
(2: R...

Keywords

meteorological, atmospheric conditions

[Metadata](#)



Logo

#### ☐ FBNA21 BULLETIN AVAILABLE FROM KWBC (WASHINGTON (NATIONAL METEOROLOGICAL CENTER))



## Harvester Setup and Status

### Setup

Add a harvest to get metadata XML files from OAI data providers. If only *providing* metadata files, harvester set up is not necessary.

[Add new harvest](#) Create a harvest to get files and to specify when and where the harvest is performed.

### Status

[View harvest history and progress](#) View a listing of all past harvests performed, current harvests in progress and their details.

| Harvest Repository   | Metadata Format ? | SetSpec ?     | Harvest Interval ?          | Manually Harvest ?                      | Harvest Settings                            |
|--|-------------------|---------------|-----------------------------|---|---|
| <b>CMA-CHINA</b><br>Base URL: <a href="http://wisportal.cma.gov.cn:18080/wis/provider">http://wisportal.cma.gov.cn:18080/wis/provider</a><br>Harvested to: <a href="#">/opt/tomcat/webapps/oai/exchange/CMA</a><br>Last harvest: 1 files, Sun Aug 14 07:58:36 EDT 2011<br>Download zipped harvest: <a href="#">Most recent</a>   <a href="#">Older</a>   <a href="#">Oldest</a><br><a href="#">View harvest history and progress</a> | iso19139          | WISTEST-CMA   | Automatic<br>(Every 1 hour) | <a href="#">New</a> <a href="#">All</a> | <a href="#">Edit</a> <a href="#">Delete</a> |
| <b>DWD-Germany</b><br>Base URL: <a href="http://china2.dwd.de:8080/oai/provider">http://china2.dwd.de:8080/oai/provider</a><br>Harvested to: <a href="#">/opt/tomcat/webapps/oai/exchange/DWD</a><br>Last harvest: 0 files, Tue Aug 09 03:57:28 EDT 2011<br>Download zipped harvest: <a href="#">Most recent</a>   <a href="#">Older</a>   <a href="#">Oldest</a><br><a href="#">View harvest history and progress</a>               | iso19139          | WISTEST-DWD   | Automatic<br>(Every 1 hour) | <a href="#">New</a> <a href="#">All</a> | <a href="#">Edit</a> <a href="#">Delete</a> |
| <b>INMET-BRAZIL</b><br>Base URL: <a href="http://gisc.inmet.gov.br:8888/oai/provider">http://gisc.inmet.gov.br:8888/oai/provider</a><br>Harvested to: <a href="#">/opt/tomcat/webapps/oai/exchange/INMET</a><br>Last harvest: 2 files, Wed Jun 01 08:55:00 EDT 2011<br>Download zipped harvest: <a href="#">Most recent</a>   <a href="#">Older</a>   <a href="#">Oldest</a><br><a href="#">View harvest history and progress</a>    | iso19139          | WISTEST-INMET | Automatic<br>(Every 1 hour) | <a href="#">New</a> <a href="#">All</a> | <a href="#">Edit</a> <a href="#">Delete</a> |



## Metadata Files Configuration

Add metadata files to the data provider by adding directories of files. Columns can be sorted by clicking on column titles.

[Add metadata directory](#) Add metadata files to the repository.

| Metadata Directory ?  | Format ? | Num Files ? | Num Ready ? | Num Deleted ? | Indexing Errors ? | Provider Access ?  | Action ?                           |
|---|----------|-------------|-------------|---------------|-------------------|--------------------|------------------------------------|
| <b>CMA exchange</b><br>/opt/tomcat/webapps/oai/exchange/CMA     | iso19139 | 1           | <u>1</u>    | <u>15</u>     | 0                 | Enabled<br>Disable | Reindex<br>Remove<br>Edit settings |
| <b>DWD exchange</b><br>/opt/tomcat/webapps/oai/exchange/DWD     | iso19139 | 3           | <u>3</u>    | <u>9</u>      | 0                 | Enabled<br>Disable | Reindex<br>Remove<br>Edit settings |
| <b>INMET exchange</b><br>/opt/tomcat/webapps/oai/exchange/INMET | iso19139 | 27          | <u>27</u>   | <u>98</u>     | 0                 | Enabled<br>Disable | Reindex<br>Remove<br>Edit settings |
| <b>IRIMO - IRAN</b><br>/opt/tomcat/webapps/oai/exchange/IRIMO   | iso19139 | 56          | <u>56</u>   | 0             | 0                 | Enabled<br>Disable | Reindex<br>Remove<br>Edit settings |
| <b>JMA exchange</b>   | iso19139 | 457         | <u>457</u>  | <u>446</u>    | 0                 | Enabled            | Reindex                            |

# Questions?